

Charlie's garden bed

Name:

Due date:/...../.....

Charlie has dug a new square garden bed in the back yard. He decides to increase the length of one side of the garden bed and would like to know how much extra area that will give him for planting. Charlie has asked you to help with the calculation but has forgotten to give you the dimensions of the original square bed.



1

[Draw a diagram]

Let the unknown side length of the square garden bed be x m.

a Sketch this garden bed in the space below showing its dimensions.

b What is the area of this bed in square metres? _____

2

Charlie asks you to add an extra metre to the length of one side of the bed.

a Sketch this new garden bed in the space below showing its dimensions.

[Write a formula]

b What is the area of this bed in square metres? _____

c What is the extra area in square metres? _____

3

Charlie changes his mind and asks you to add two extra metres to the length of one side of the original bed.

a Sketch this garden bed in the space below showing its dimensions.

b What is the area of this bed in square metres? _____

c What is the extra area in square metres? _____

4

[Write a rule]

Charlie then asks you if there is an easy way he can work out the extra area. What would you tell him?

5

[Generalise]

Imagine Charlie adds some number of extra metres, a m, to the length of one side of the original bed.

a Sketch this new garden bed in the space below showing its dimensions.

b What is the area of this bed in square metres? _____

c What is the extra area in square metres? _____

6



[Apply findings to a new situation]

Charlie decides to add extra length to both sides of the original square bed. He adds 2 m to one side and 3 m to the other side.

a Sketch this new garden bed in the space below showing its dimensions.

b What is the area of this bed in square metres? _____

c What is the extra area in square metres? _____

Student comment	Guardian comment/signature	Teacher feedback